

SUPERBASE 17

EGLIN

Fighters, Bombers, Special Ops



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Front cover Cruising at height above the deep blue waters of the Gulf of Mexico, a pair of suitably marked 3246th Test Wing aircraft venture out from Eglin on a routine bombing sortie. The Talon has the performance in clean configuration to stay with the heavily laden F-15E Strike Eagle throughout the mission, thus making it the ideal chase plane

Back cover Maintaining an air of indifference to the goings on around it, an immaculate F-15C from the 33rd Tactical Fighter Wing (TFW) basks in the glory of a sunny afternoon at Eglin. An impressive total of over 90 F-15s of various marks 'roost' at the base all year round

Photo dope: Cameras as always are Nikons, these days the superb new F-4S models. Lenses range from 15mm to 500mm. Film is Kodachrome 64 with few exceptions. Air-to-air shots were taken from a T-38 Talon belonging to the Munitions Systems Division's 3246th Test Wing.

Title Page Hovering in low over the trees, a 20th Special Operations Squadron (SOS) HH-33H Super Jolly Green Giant departs on a practice sortie from Hurlburt Field. The 20th SOS, as part of the 1st Special Operations Wing (SOW), regularly deploys to Howard AFB in Panama to further enhance the squadron's operational capabilities

Right Sitting comfortably in a 3246th Test Wing T-38 Talon, the author heads out over the Gulf of Mexico

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Introduction

Up in Florida's north-western panhandle, close to the beaches known to folks in the deep south as the 'Redneck Riviera', lies Eglin Air Force Base. Eglin has many fascinating distinctions, and chief among them is its awesome size: with 720 square miles of land ranges and auxiliary airfields, plus almost 100,000 square miles of instrumented water ranges, Eglin (and contiguous Hurlburt Field) is by far the largest Air Force base in the western world. This enormous base has been in continuous Air Force use since the early 1930s, when it was established as a gunnery and bombing facility.

Eglin has served from its first days primarily as a test base and proving ground for air-to-ground weapons and tactics. Virtually every modern attack aircraft and weapons system has been wrung out over the vast Eglin ranges. Its hinterlands have also seen a half-century of secret dress rehearsals for such famous military actions as the Doolittle Tokyo raid, the incendiary missions over German and Japanese cities, and the tragically unsuccessful Son Tay POW rescue in North Vietnam.

Eglin's host unit, and biggest tenant, is the Munitions Systems Division, an outfit that tests and evaluates a complete range of non-nuclear weapons systems. Detachments from every major Air Force command – the Strategic Air Command, the Tactical Air Command, the Military Airlift Command, etc – are permanently on hand to monitor projects and developments of interest to them. And the Division's 3246th Test Wing flies a collection of current Air Force tactical aircraft to support these missions.

Another big-time tenant is the Tactical Air Warfare Center, fountain-head of current wisdom in the fields of tactical electronic warfare, reconnaissance, and specialized crew training. Its Blue Flag and Green Flag

exercises held several times a year provide ultra-realistic training in the areas of command, control, and electronic counter-measures, all set against up-to-date real world events and contingencies. The TAWC's 4485th Test Squadron supports these programmes with test flights in A-10, F-15, F-16, F-4, and RF-4 aircraft, plus various trainers and utility twins.

Almost lost in this test and research environment is a full-up combat F-15 wing, the 33rd Tactical Fighter Wing. The outfit's three squadrons fly the newest C and D models of the magnificent Eagle interceptor; they have their own tactically secure mini-base on the far side of the main runways. The 33rd is a maximum-readiness fighter wing that traces its roots to the 33rd Pursuit Group flying P-40s in the days before Pearl Harbor.

Down the road to the west is 'Special Ops' country at Hurlburt Field. State-of-the-art rescue techniques are the province of these warriors, along with secret capabilities for infiltration, resupply, and removal of special operations ground forces. The Hurlburt ramp hosts some of the most modern and infernally complicated aircraft in the American inventory, most of them exotically instrumented for zero-zero flying and navigation to any point on earth.

While at Eglin/Hurlburt, we were squired around tirelessly by the MSD's peerless public affairs officer George Roberts; kudos also to his boss, Capt Susan Brown, for arranging everything with total efficiency. Like all active US bases, Eglin, and especially Hurlburt, are closed to casual visitors. But a good bet for the aficionado in the Fort Walton Beach area is the superb Eglin Armament Museum, located at the main gate on Florida Route 85.

Contents

1 Green machines

2 Lockheed muscle

3 Eglin Eagles

4 The grey ghost

5 'Aardvark'

6 Talon tester

7 VIPs

8 Eglin marvels



Treading carefully so as not to scuff the paint with his rather large boots, a fatigued maintainer climbs aboard F-15C 86-173, an aircraft otherwise known as the boss' 'private jet'. Wearing the famous 'Gulf Spirit' mural just below the cockpit, this particular Eagle is the 'Cadillac' of the 72-strong F-15 fleet based at Eglin.

Green machines

The world of USAF Special Operations Forces (SOF) is a clandestine one, to put it mildly. A large chunk of their operational capability is provided by this awesome beast, the Sikorsky HH-53H Super Jolly Green Giant. Part of the 20th SOS based at Hurlburt Field, this 'Giant' is taxiing out at dusk before departing on a low-level training mission over the extensive ranges which surround Eglin. The distinctive angling of the huge rotor hub which characterizes the MH-53 in taxiing mode is clearly visible in this head-on shot.









Left and below The pilot carefully winds on the power and gains height before retracting the sturdy undercarriage gear and disappearing into the lush Florida swamplands. A veteran with over 20 years of service in the USAF, this particular 'Giant, 95791, left Sikorsky's plant in 1969 as an HH-53C, and as such saw combat service in Vietnam. Eleven years later it was returned to Sikorsky and converted into its current MH-53H Pave Low III spec. The modification saw a full inertial navigation system (INS), stabilized Forward Looking Infra-red Radar (FLIR), Doppler navigation equipment and AN/APQ-158 Forward Looking Radar (FLR) installed into the 'Giant's' fuselage. The large off-set radome which characterizes this model H-53 contains the AN/APQ-158, a system which is also fitted into the A-7D Corsair II. Along with the A-7's radar, Sikorsky fitted the Projected Map Display Set (PMDS) into the cockpit of the HH-53H, this device having proven its worth over and over again in the Corsair II







Above Pointing the nose of the 'Giant into the sun, the pilot squints through his Ray-Bans as the 20th SOS machine gently climbs away. The two large, jettisonable 450 US gallon sponson tanks combine with the internal self-sealing tanks to give the HH-53 an impressive combat radius. The retractable refuelling probe fitted to the nose of the helicopter further increases its operational range. The hoist, positioned just below the starboard General Electric T64-413 turboshaft, can trail a 280 ft rescue cable

Left Protruding from the nose of the HH-53, the inflight refuelling probe is a vital piece of equipment which allows the helicopter's crew to perform rescue sorties over vast distances. During refuelling the probe extends well forward of the HH-53's main rotor disc. The 20th SOS is usually the main customer of the 55th Aerospace Rescue & Recovery Squadron (ARRS) who fly a mixed force of HC-130N and P model Hercules from Eglin. Both of these versions are tanker configured, using the probe and drogue method





Left There's no way anyone is going to take this crew by surprise from the rear! Hiding behind the heavily tinted visor of his bonedome, the aerial gunner plays 'tail-end Charlie', squatting behind an ancient, but effective, .50 calibre machine gun. The bone-shaker is firmly attached to a rear door mounting, this particular configuration having proven itself in the jungles of Vietnam. The 20th SOS is currently passing its HH-53Bs onto the 1850th Combat Crew Training Wing at Kirtland AFB, New Mexico, as newly refurbished J models reach Hurlburt Field from Sikorsky. Eventually the Juliet model will be the sole type operated by the 20th SOS, a total of 15 helicopters being on squadron strength. During the recent invasion of Panama, Super Jolies from the 20th SOS were heavily involved in inserting Special Operations Forces and Combat Control Teams in crucial target areas. These helicopters were especially ferried down to Pope AFB for Operation *Just Cause* in MAC C-5s.

Above As '5781' gets closer to the camera more details of the potent Super Jolly Green Giant come into focus. The small turret situated just to the left of the nose gear contains the FLIR receiver, a system which is slaved to the AN/AAQ-10 radar. Protruding menacingly from both crew doors are a pair of 7.62 mm miniguns, these weapons possessing the ability to clear a landing zone of enemy forces rapidly. The standard operational crew of a 'Giant' comprises the pilot, co-pilot, flight engineer, paraspecialist (PJ) and aerial gunner. Should a fire-fight develop, however, the engineer and the PJ can also be relied upon to skilfully handle a weapon.





The Florida heat can be oppressive at the best of times, but when you're fully suited-up, sitting in a dark green 'oven', with two large turboshafts just behind your ears doing their best to raise the ambient temperatures to boiling-point, the only thing left to do is open a window, or, in this case, two. The cockpit area on the 'Giant' is heavily glazed offering excellent visibility to the crew, but once the lead starts flying the men up front are going to be rather vulnerable. However, the pilots' posterior is afforded some protection in the form of armour plated crew seats





Left As with all helicopters, the MH-53 paints a nice engine heat picture for an infrared seeking missile to lock on to. One solution to this problem is to fit an infrared countermeasure, or simply IRCM, set to help mask the heat problem. The heart of the IRCM system is an electrically heated brick which forms a brilliantly powerful source of IR radiation. The various panes on the IRCM act as shutters, a computer releasing emissions from the unit in a sequence it thinks will confuse the missile's seeker head most effectively. The MH-53 has an IRCM bolted to each sponson which gives it total 360 degree protection

Above Unlike the relatively new IRCM system, the General Electric GAU-2B/A 7.62 mm minigun has been around for as long as the Super Jolly, its baptism of fire taking place in the skies over South Vietnam. The weapon can fire an impressive 4000 rounds per minute, and, as can be seen here, is firmly mounted within a steel U-shaped bracket which gives the gunner a large field of fire



Above The tail unit on the 'Giant' is a compact design which has changed little since it was first flown on the prototype S-68 back in October 1964. An intricate piece of kit, the tail rotor is one of the more vulnerable parts of the MH-53. The weathering on the leading edge of the rotor blades indicates just how hard these aircraft are flown.

Right Recognizable by its grey coloured radome, a recently delivered MH-53J spreads out over the Hurlburt Field pan. Basically the same as the H model, this latest Super Jolly Green Giant variant has had its all-weather, day/night capability further improved by Sikorsky in a programme entitled Pave Low Enhanced. Commencing in 1986, a total of 31 MH-53Js have been converted by Sikorsky, the majority being ex-Bravo and Charlie models, although some Hotel model H-53s have also been Pave Low Enhanced.









Left Taxiing lights ablaze, the HH-53H sits momentarily on the Hurlburt ramp awaiting clearance from the tower to take off. The 20th SOS fly a very demanding mission and the training they undertake is as realistic as can be made possible. This sometimes leads to accidents however, and two Hotel model H-53s have been lost by the squadron over the past decade. The Air Force has replaced these lost helicopters with suitably modified HH-53Cs. One of the distinguishing features of the Super Jolly Green Giant family are the distinctly patterned engine intake covers. These large devices act as filter/particle separators, thus minimizing the risk of damage to the twin T64s from dust and debris

Below Surrounded by 8th SOS MC-130E Hercules, the crew carefully go through their preflight checks before powering away from the squadron ramp. The DRCM sets can be clearly seen bolted to the sponsons and the miniguns stand ready for action. The six-bladed rotor is based on the device fitted to the S-64 Skycrane, another Sikorsky product. Both titanium and steel combine to form the rotor-head itself, whilst the blades are of aluminium construction. The twin T64s are as highly rated as any fitted to the H53 family of helicopters, each producing 3925 standard horsepower. The MH-53 is capable of attaining speeds of up to 170 knots, and it can lift loads weighing up to 9072 kg







Left Framed against a typically blue Florida sky, this suitably camouflaged Sikorsky MH-60G Pave Hawk hovers above the tarmac at Eglin. Wearing the serial 23843 in black on its tail pylon, this helicopter started life as a standard UH-60A Black Hawk operated by the USAF. However, in 1988 it became the first of ten helicopters sent by the Air Force to Sikorsky Support Services for conversion to MH-60G Pave Hawk spec. A dedicated SAR mount, this 1981-vintage helicopter is assigned to the 55th ARRS, based at Eglin

Above Seemingly floating in on a watery mirage, an MH-60G Pave Hawk of the 55th ARRS is marshalled to its parking spot on the hot Eglin ramp. A direct descendent of the still-born HH-60A Night Hawk, the Pave Hawk is a more austere version of the former, but one which is still totally dedicated to the combat SAR role. Originally the Air Force was going to procure 90 Night Hawks, the helicopter being fitted out with an amazingly sophisticated avionics suite which was to include FLIR, ground mapping, terrain-following and terrain-avoidance radar. The HH-60 was to be powered by two uprated T700-GE-701 turboshafts, as fitted to the Navy SH-60B. Unfortunately budget cuts slashed the Air Force's overall funding and the Night Hawk programme was scrapped after only one prototype had flown. The legacy of the programme, however, has evolved into the MH-60G. The Air Force procured 11 UH-60As in 1982 to act as trainers and project development aircraft and it is these machines which have been modified by Sikorsky Support Services



Above The 65th ARRS operates 19 UH-60/MH-60 Hawks, all of which are being converted to Pave Hawk specification. This particular machine, along with ten others, was part of the original USAF procurement from Sikorsky in 1988. As with the MH-53, the refuelling probe on the Pave Hawk extends beyond the diameter of the helicopter's rotor blades before connecting with the tanker aircraft. Two Air National Guard Units, the 129th and 210th ARRS, are also currently receiving small numbers of MH-60Gs, these aircraft replacing HH-3Es of Vietnam vintage

Right The camouflage scheme on the MH-60 is based on that worn by the veteran HH-3E Jolly Green Giant, a helicopter the proposed Night Hawk was to replace. The recently delivered MH-60Gs have the air-to-air refuelling probe developed for the Night Hawk fitted to the nose, as well as a 117 US gallon internal auxiliary fuel tank and a fuel management system integrated into the fuselage. Eventually, Pave Low III avionics, as fitted to the MH-53J, will be grafted onto the nose of the sleek Sikorsky, thus giving the helicopter true Pave Hawk capabilities









More reminiscent of an 'Eagle Flight' mission departing a dusty jungle strip in South Vietnam than a visiting four-ship returning home from deployment to Eglin, a quartet of Marine Corps UH-1H 'Twin' Hueys head up country into the setting sun. The facilities available to rotary winged crews at the extensive Eglin ranges attracts squadrons from both the Army and the Marine Corps, as well as resident Air Force units (USAF photo)





Lockheed muscle

Two of the more specialized types operated by the USAF share ramp space at Hurlburt Field. The powdery grey Hercules in the foreground is a 16th SOS AC-130H 'Pave Spectre' gunship, one of ten flown by this elite unit. All H model gunships started life as C-130Es, and all had consecutive serial numbers ranging from 69-9567 through to 69-6577. They had served briefly with the USAF before being sent to LTV E-systems for gunships conversion, the aircraft then going to the 16th SOS at Ubon Royal Thai Air Base for their baptism of fire over South Vietnam. The Spectre gunships were upgraded to their current spec in 1973 when new Allison T-56A-15 engines replaced the old T-56A-7s. The Air Force also took this opportunity to standardize the avionics and weapons fit throughout the AC-130H fleet. The large blister just forward of the graphic mural on 69-6572 contains the vitally important Black Crow Direction Finder equipment. Technically called the AN/ASD-5, Black Crow is tuned to pick up the noise emitted by Soviet automotive ignition systems. Sitting at his station within the mid section of the AC-130, the electronic warfare officer (EWO) charged with operating Black Crow is alerted to the presence of a target through an audible tone, backed up by a visual 'blip' appearing on his radar scope





Left A suitably camouflaged liquid nitrogen tank is used by a 'groundie' to replenish the aircraft's internal supply of the vital cooling substance. Behind his shoulder is the AN/ALQ-24A stabilized tracking set, an important device which houses the 'eyes' of the gunship – the AN/ASQ-145(V) Low Light Level Television (LLLTV) and the Korad AVQ-18 Laser Target Designator/Ranger. Both systems operate as one in a combat situation, allowing the crew to firstly track, and then neutralize hostile forces at any time, day or night . . .

Below . . . and if you're unfortunate enough to be the designated target of this particular weapon you will most certainly be neutralized! The aerial equivalent of the battleship's broadside, the trusty 105 mm cannon is the largest calibre weapon mounted in any aircraft in the world. Basically a carriageless Army howitzer, the gun has proved effective over the jungles of Vietnam, Grenada and Panama. Taking the place of one of the 40 mm Bofors guns, the 105 has a fully trainable mounting which is slaved to the computer sighting system. Although not easy to reload, an experienced crew can achieve the amazing firing rate of 10 rounds per minute with this weapon. The dome alongside the howitzer contains the AN/APQ-150 Beacon Tracking radar whilst the gun to its left is a 40 mm M2A1 Bofors cannon, a weapon which was originally mounted in tandem on the AC-130E. The red muzzles bolted onto the Howitzer and the Bofors act as flash suppressors when the weapons are fired





Above Nose art has always been customary on AC-130s since the earliest days in Vietnam. The ferocious Grim Reaper, riding a fiery M61A1 Vulcan cannon down from the heavens, is a particular favourite of the 16th SOS. Aircraft from both the 16th and 711th SOSs fired their guns in anger over the skies of Panama in December 1989, the reservists flying 22 missions in their veteran Alpha model gunships

Right Various weapons have been mounted on gunships over the past 25 years but one that has always featured in the AC-130's arsenal is the M61A1 Vulcan cannon. A devastating six-barrelled weapon of destruction, the Vulcan is the standard gun fitted to most frontline USAF and US Navy fighter and attack aircraft. Built by General Electric, the 20 mm cannon replaced the 7.62 mm MXU-470 Minigun, also built by GE, as the favoured rapid firing cannon fitted to Spectre gunships. The MXU-470 saw extensive service in the first USAF gunship, the venerable AC-47 'Spooky' Dakota









The Hotel model AC-130s are rather old and tired aircraft, although they are maintained in excellent condition. However, the 711th SOS, Air Force Reserve, ply the skies with even older Spectre gunships, the unit operating, with a considerable amount of pride, the surviving AC-130As converted to the gunship spec back in 1987/88. Seen high over the Eglin range, this Herk, serial 50011, has been fully updated to match the AC-130H in every department except for its powerplant. Flying from Duke Field, the 711th SOS currently has nine AC-130As on strength. It is likely that the 711th will acquire AC-130Hs from the 18th SOS as the latter receives freshly modified AC-130Us from Rockwell International. The 'new' Spectres are to be fitted with a modified version of the Hughes AN/APQ-70 digital fire control radar, a tried and tested system which has flown for many years in the F-15 Eagle family of fighters. Other avionics scheduled to be installed include the Texas Instruments FLIR, Ball Aerospace Low Light TV, a head-up display for the pilot, new electronic warfare devices, uprated navigation equipment, baron/Kevlar armour protection, bad-weather attack radar and an air-to-air refuelling probe. A total of 12 AC-130Us are scheduled to be purchased, allowing the remaining Alpha model gunships to be finally retired (USAF Reserve photo)





Left Operating alongside the trio of November model HC-130s are five HC-130Ps, this particular machine, contrailing its way into the hazy skies above Eglin, being the youngest member of the fleet. As with all other 85th ARRS HC-130Ps, this aircraft has had the gut-wrenching Fulton Recovery System forks removed from the nose, although the radome retains the distinctive chisel profile synonymous with this apparatus. The purpose of the large white markings near the rear crew door is unknown.

Below A Hercules of a far less aggressive nature, this rescue HC-130N is seen recovering after a training sortie. An even rarer variant than the formidable AC-130, only 15 N models were ever built by Lockheed, three of which are assigned to the 85th ARRS. The first tanker version of the ubiquitous Hercules delivered to the USAF, the HC-130N reached rescue units at about the same time as the HH-3C Jolly Green Giant helicopter, thus giving ARRS squadrons a world-wide rescue capability. NASA's space programme was at its peak during this period and the HC-130Ns, with their dorsally mounted Cook Electric Company radars, proved vital in the recovery of astronauts and their capsules.







Left The angular nose profile of the HC-130P can be better appreciated from this head on view. When not deployed the forks would lay folded back alongside the nose of the Hercules. Unlike the N model, the HC-130P retains the internal tank, which, like the November, is plumbed to two outboard drogue refuelling stations. Besides the 55th ARRS, the 67th Special Operations Group at RAF Woodbridge, the 33rd ARRS at Kadana and the 1550th Combat Crew Training Wing at Kirtland AFB all fly HC-130Ps. Two Guard units, the 102nd and 129th ARRS, also operate HC-130Ps.

Above With the RESCUE titling crudely removed from its huge slab tail fin, HC-130N 95822 cruises past the Eglin control tower. Lacking both the Fulton equipment and the fuselage mounted internal 1800 US gallon fuel tank of the HC-130H, the November model Hercules is otherwise identical to its more common cousin. The utilization of the N model's aerial refuelling capability will steadily increase in the near future as the 55th ARRS becomes fully operational with the MH-60G Pave Hawk.



Right The final squadron within the 1st Special Operations Wing at Eglin/Hulburt is the 8th SOS equipped with the sophisticated MC-130E *Combat Talon II* Hercules. Clearly visible in this ultra wide-angle shot are the Fulton Recovery forks, 8th SOS MC-130s being the only Hercules left at Eglin/Hulburt equipped with this system. Operating with a crew of 11, the *Combat Talon* aircraft are equipped with a highly specialized terrain following radar, FLIR pod, electronic countermeasures suite, automatically computed drop release system and an aerial delivery/container deployment device. During the invasion of Grenada in October 1983 the MC-130s of the 8th SOS were involved in the insertion of US Army Rangers and a USAF Combat Control Team at Point Salinas airfield. During this hazardous operation the MC-130s were supported by 18th SOS Spectre Gunships. A total of 14 MC-130Es were delivered to the Air Force in the early 1970s, and their ranks are currently being swelled with the delivery of 24 MC-130Hs, converted to *Combat Talon II* standards by Lockheed Air Services of California.

Above This aircraft is a bit of a mystery machine. Wearing the serial 50971 on its tail, and rather flash 'Playboy Bunnies' on a single blade of each prop, this Hercules is actually a HC-130H, the most common rescue variant of the C-130 built for the USAF. The mystery lies in the fact that no Hotel model Herks are based at Eglin, and according to current serial allocations this particular aircraft doesn't exist! The large dorsal KTS radar fairing synonymous with this model Hercules is also missing from 50971.





Eglin Eagles

There's a bit of money tied up in this impressive line-up! Currently retailing at about \$40 million, you would need a rather large calculator to work out the overall value of this 'stack' of 33rd Tactical Fighter Wing (TFW) F-15Cs and Ds. All wearing the proud eagle motif on the inside of their fins, the red trimming on these aircraft indicates that they belong to the 60th Tactical Fighter Squadron. The 33rd TFW currently operates 72 Eagles from Eglin, the majority of these aircraft having left the St Louis production line less than two years ago. Sheltering from the baking midday sun, two ground technicians go about repairing a small wiring fault near the starboard AIM-7 Sparrow trough. The powercart is plugged in to allow the 'groundies' to fire up the F-15's weapons management system.







Above Style is the watchword of all F-15 drivers the world over, particularly around the base. Here, a pair of 60th TFS Eagle jocks maintain the image with a perfect two-ship recovery at Eglin after an ACM sortie out over the Gulf. Once back on terra firma, the pilots will maintain a nose up attitude for as long as possible, the ability to coast in on two wheels being an integral part of an F-15 jock's aerial craft. It also saves wear on the nose BF Goodrich!

Right In this 'stick' configuration no 'enemy' pilot in their right mind would consider tangling with this immaculate 58th TFS F-15C. The Ford Aerospace AIM-9L Sidewinder mounted to the starboard shoulder pylon is a practice round, the pilot departing on an ACM sortie over the Gulf of Mexico









Opposite above & below All 33rd TFW F-15a wear the standard Air Force two letter tailcodes, but one machine is distinctively decorated with a *reverse* drop shadow 'EG' in place of the black titling. Flown by one pilot, and one pilot only, F-15C 86173 is clearly marked as the Wing CO's personal mount. Besides the outlined lettering, the large serial and '33rd TFW' titling are also unique to this aircraft, as is the triple fin stripe. Just forward of the port air intake are the badges of the three squadrons which constitute the 33rd TFW

Above Weaving its way through the cluttered 59th TFS parking ramp, a GMC truck hauls its lethal load of five AIM-9Ls and assorted handling gear. The Eagle in the foreground is weaponless, its stores pylons still retaining their red safety tags. Once the Sidewinders are securely mounted, the armourer will remove these tags and store them until the aircraft returns





Left and above Although already equipped with the more than capable Northrop AN/ALQ-135 (V) internal countermeasures set, the F-15 can also tote an AN/ALQ-131 or ALQ-139 pod from any of its various weapons pylons. This particular pod is a brand new system developed by Westinghouse and is an active device which operates automatically once switched on by the pilot. Within its streamlined bodywork is a powerful signal processor which picks up and classifies radar emissions. The bullet fairings at either end of the pod contain independent jamming sets which can operate over ten separate wavebands. Depending on the signals which the ALQ-139 receives, it can pump out noise which gives a blanket spread to inhibit radar lock-on, or it can emit specially coded signals which confuse the enemy in a more subtle way. Only recently cleared for frontline squadron use, this particular pod is being carefully guided beneath the centreline stores station of the CO's F-15C. Although offering the pilot greater ECM security, equipping the F-15 with an ALQ store depletes his offensive armament by one missile, or as in this case, reduces the aircraft's effective combat radius by replacing the centreline tank

Right With the cockpit displays all 'fired up', the cranial equipped technician goes about checking the various systems in his Eagle. The large hose plugged into the aircraft just behind the nosegear is connected to a mobile air-conditioning unit which is used to keep the aircraft's heat sensitive avionics cool while they are running on the ground. The tagged plastic covers are securely fastened over the pitot tube and the angle of attack probe. Moisture must be kept out of these sensors at all costs, a difficult feat to achieve in the all-enveloping humidity of Florida

Below All members of the 'Golden Pride', six Eagles of the 58th TFS back in the late afternoon sun, their large canopies cranked up high to reduce the ambient temperature within the cockpits. Unlike most other F-15 Wings, the 33rd have made no attempt to tone down the markings on their Eagles. Perhaps the most unusual feature of their aircraft is the full colour 'star and bar' worn proudly on each F-15, most other USAF machines resorting to a black stencilled outline of the famous national insignia





Engines running, the pilot talks to Eglin tower before taxiing off to the 'last check' point near the main runway. Here, two or three squadron groundcrew will rapidly check the aircraft over before removing the remaining safety pins and giving the pilot the traditional 'thumbs up' to send him on his way. Unlike the majority of 33rd TFW F-16s, this aircraft wears a more common 1990s style 'star and bar' just forward of the cantered intake







Above Close up detail of the starboard fin of a 60th TFS F-15C. The fin tips on the F-15 each support a different system in the aircraft's overall ECM suite. The fairing shown here contains an aerial for the internally mounted ALQ-135 system, whilst the aft facing dome at the trailing edge of the fin contains a receiver for the Loral ALR-56 radar-warning system. The smaller fairing immediately below the ALR-56 houses an anti-collision light

Right Nose art with an historical link, the colourful 'Gulf Spirit' logo worn on Colonel Bob Mendell's F-15C has adorned the Wing CO's aircraft since the unit's F-4 Phantom II days. The blue star identifies the geographical position of Eglin in respect to the rest of Florida



Col Bob Marshall

CAUTION
DO NOT BE HANDLED BY
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Above and right The ramp begins to bake as the launch cycle is increased and the day's flying ops near their peak. Although physically cut off from his groundcrew, the pilot can easily communicate with them through the intercom, or by simply using the age old practice of hand signals

Overleaf Flying a tight departure formation, a pair of Eglin Eagles rotate away from the base. The large 800 US gallon external tank is a permanent fixture on F-15s throughout the Air Force. Although capable of carrying McDonnell Douglas FAST (Fuel and Sensor Tactical) packs on the lower fuselage sides, most Charlie model F-15s are seen with the standard bolt on belly tank plugged into the centreline stores station













Left With the all-moving tailplane firmly angled down and the taxi light ablaze a 59th TFS Eagle recovers at Eglin. Besides the almost mandatory external tank on the centreline, this aircraft has two AIM-7M Sparrow missiles mounted in the forward troughs. Although the weapons are both finless, the active seeker heads allow the pilot to simulate lock-on with other aircraft during ACM

Above Returning from a short ACM sortie, the pilot performs a text book pitch and break pass over the base. As with the roll out on touchdown, the art of the perfect break is constantly practiced by F-15 drivers throughout the force. Competent airmanship over the base is important for pilots because more often than not fellow squadron mates and groundcrews are critically analysing every move made in the airspace above, and news of a sloppy break or aborted roll soon gets around!

Right Undercarriage retracted away, the pilot heads skyward in his 'clean' F-15. Mounted in the forward trough is the shape of missile technology for the 1990s, the Hughes AMRAAM AIM-120A. A brand new system, the AIM-120 will be the main medium range missile used by both the Air Force and the Navy for the next 20 years. Although a programme dogged by cost and time overruns, the finished product has emerged as a truly impressive system offering far greater capabilities to the fighter pilot than ever previously achieved with the Sparrow. Unlike the AIM-7, the AMRAAM is a 'fire and forget' missile, the seeker head within the round not having to rely upon the firing aircraft's radar for guidance. Travelling at speeds in excess of Mach 4, and capable of picking up targets at extreme range, the AIM-120 tracks its quarry on inertial guidance before using a small active radar developed by Hughes to finally home in on the doomed adversary. The honour of receiving the first of 17,000 AIM-120s currently on order for the USAF went to the 33rd TFW in September 1988 when Hughes handed over several rounds at an official ceremony at the base. Much of the testing of the AIM-120 was carried out by the 3246th Test Wing at Eglin between 1986 and 1988

Below 'Carefully does it'. A trio of 'groundies' uplift a 'Nine Lima' towards the waiting 59th TFS Eagle parked in the background. Weighing in at 85.3 kilos, the Sidewinder is light enough to be manhandled. The L model AIM-9 has been in production since 1977, a total of over 17,000 having so far been built. The highly successful Sidewinder is due to be replaced in the early 1990s by the internationally developed ASRAAM AIM-132A, a missile system which, like the AMRAAM, has been plagued by a prolonged development history





Befitting the squadron's designation, this F-15C, serial 88159, is the unit commander's personal mount, hence the large 59th TFS tiling on the twin fins. The physically large dimensions of the twin intakes are clearly emphasized in this head on view. Within them are two moveable ramps which control the air influx and provide a supersonic shockwave which slows the ingested air down during flight. This allows the twin Pratt & Whitney F100s to fully utilize all the air 'swallowed'. A feature seen only on the F-15 is the tilting ability of the intakes, the pilot being able to select the angle he requires to maximize air ingestion. For example, during take-off or landing when the forward speed of the F-15 is low, the pilot usually angles the intakes through to 11 degrees below horizontal, thus feeding the engines with as much undisturbed airflow as possible. They can also be raised four degrees during supersonic flight. Their movement is controlled by an inbuilt air data computer, this system also controlling the moveable ramps. The all-moving intakes have proved particularly successful during tight ACM manoeuvring as they keep the local airflow around the aircraft powering through to the engines at high angles of attack, thus preventing the possibility of compressor stall







Right The sharp, but expensive end of Tactical Air Command's air superiority capability. An impressive line-up during peacetime, in a crisis situation aircraft of the 33rd would be dispersed to all points of the Eglin locale. The subtle colour variations in the greys used on TAC F-15s is clearly evident in this shot, as is the immaculate condition of the Wing's aircraft

Above Besides the 'stars and bars' national insignia and the 'EG' tailcodes, all 33rd TFW F-15s proudly wear the Wing's crest on the starboard intake. The 33rd were the first wing in the Air Force to receive Multi-Staged Improvement Programme (MSIP) Eagles in the autumn of 1985, their older F-15As passing on to Air Defence Tactical Air Command units. MSIP F-15s have had their Hughes APG-63 radars replaced with the greatly improved APG-70, plus the original armament control panel in the cockpit has given way to a multi-purpose Sperry video display unit (VDU). The VDU has been made programmable to accept the new AMRAAM, as well as the standard AIM-7 Sparrow. The F-15's internal ECM capabilities have also been vastly improved through the MSIP upgrading







Above Eagle 'tail feathers', 60th Tactical Fighter Squadron style. The considerable size of the F-15's twin fins bestow upon the aircraft excellent handling characteristics at high Mach numbers, plus reduce the chances of the fin and rudder being rendered useless during high angle of attack manoeuvres

Right Injakes angled slightly forward, a 'Golden Pride' Eagle departs Eglin on a routine ACM mission. The abundance of military hardware in the state of Florida means the 33rd TFW pilots get to fly dissimilar air combat sorties with a variety of different aircraft, the wide open spaces over the Gulf often being their preferred 'playground'



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172





Above Using his can of USAF issue 'wonder shine' spray to good effect, a 59th TFS 'groundie' turns 86162 into a metallic masterpiece, shimmering in the humid Eglin heat. Like several other 33rd TFW Eagles, this F-15 has the low viz star and bar emblazoned on its fuselage. The overall finish of the Eglin Eagles belies the fact that they are flown hard and fast virtually every day of the year, and is an excellent advert for the level of maintenance performed on the aircraft by the groundcrews of the 33rd TFW

Right Somewhat older than the majority of the F-15s at Eglin is 74124, one of nine Eagles operated by the 3246th Test Wing. An early production A model built in 1974, this Eagle wears the 'OT' tailcodes and chequered fin tip striping of the 4488th Test Squadron. Just like the frontline F-15s which dominate the huge Florida base, the Test Wing Eagles are maintained in pristine condition





Above left and right Variations of the same theme. The F-15C with the reverse drop shadow lettering is the squadron CO's mount, the highly stylized chequered stripe atop the twin fins being unique to this particular machine. Built in 1984, this particular aircraft was pulled from the batch of Eagles delivered to the 36th Tactical Fighter Wing at Bitburg, Germany, in 1983. The latter shot shows a more standard test squadron Eagle, the 4485th operating one Alpha and four Charlie model F-15a. Owning a varied fleet of frontline types, the 4485th is an outfit unlike any other in Tactical Air Command, the squadron being charged with the responsibility of developing and testing new weapons and tactics associated with TAC aircraft.

Right Airbrake deployed, the 4485th TS test pilot shows the 33rd TFW boys how it should be done on recovery after a brief proving flight. The ground clearance between the exhaust nozzles and the Eglin tarmac is barely more than two feet, this separation distance varying little during the roll when the F-15 is being handled by an experienced pilot. The position of the ram air operated airbrake is less than satisfactory from a pilot's viewpoint, but when the aircraft was designed it was found that this was the only space available for it. When the airbrake is deployed the pilot's rearward vision is virtually obliterated; an unfortunate situation to be in should an enemy fighter manage to join the landing pattern around an F-15 base.









Opposite above Surrounded by the vital 'life support' systems associated with a modern fighter being primed for a sortie, a 3246th Test Wing (TW) F-15D prepares to receive an AMRAAM round. Designated a JAIM-120A, the missile wears a yellow stripe around its midriff, thus denoting it as being live. The trolley driver will carefully ease the missile up towards the mounting 'U' rings which protrude from the lower fuselage, the final mating of AMRAAM and Eagle being closely overseen by his fellow armourer. The distinctive small fins which help guide the missile during flight have yet to be added. The 3246th was responsible for testing the AMRAAM before it entered squadron service, 128 rounds being expended by the unit's F-15s and F-16s over the 'electronic' ranges at Eglin.

Opposite below Firmly secured to its trolley, a practice AIM-9L round points towards its eventual customers. The small Thiokol TX-683 solid motor installed in the Lima and Mike model Sidewinders has a mission time of only 60 seconds, thus restricting the effective range of the missile to 17.7 km (11 miles). The latest version of the Sidewinder, the AIM-9R, has a totally new imaging infrared seeker head fitted to it which has increased the lock on range of the missile appreciably.

Above Although surrounded by CBU-71/B cluster bomb units, this rather tart F-15D will not have to ruin its elegant lines by hauling these devices skyward. The rapidly peeling decal on the fin of this aircraft denotes that the 3246th are part of the Air Force Systems Command. The unique 'AD' tail code stands for Armament Division, the Wing being responsible for much of the testing associated with new munitions about to enter service with the Air Force.





Left A completely different breed of twin tub Eagle. The distinctively camouflaged F-15E is the latest member of the Eagle family to enter USAF service, albeit in far smaller numbers than originally planned. This particular airframe, 860188, was the third Strike Eagle delivered to the Air Force, having arrived at Eglin in late 1987. Since that date it has been heavily involved in the 'Seek Eagle' programme, a rather aptly named series of flights which has seen much of the aircraft's offensive ordnance cleared for operational service

Above Besides the pair of Delta model F-15 twin tubs flown by the 3246th, two earlier generation Beta model Eagles are also on the operational roster. Totally devoid of stores, this Eagle is caught just as the gear is completing its retraction cycle. A total of 58 two-seat F-15Bs were built by McDonnell Douglas at their St Louis plant between 1973 and 1979



Throughout the 'Seek Eagle' programme the F-15E has had a truly awesome 'encyclopedia' of weaponry hung from its many stores pylons. However, the ordnance being mounted beneath the port wing in this instance is most definitely not of the offensive kind. Emphasizing the heavy civilian input into the testing of new systems, two technicians from Dyn Corp check the fitting of four cine camera mounts onto the soon to be CBU-laden 3248th Strike Eagle. The film from the following sortie will be thoroughly analysed by McDonnell Douglas and Air Force personnel to ensure that the F-15E can safely operate within its design parameters with CBU canisters affixed to the fuselage pylons. Millions of feet of film will have been shot by the time the 'Seek Eagle' programme finishes





Above Fully bombed up with cameras at the ready, the Test Wing crew taxi out towards the Eglin runway. The visibility offered to the crew is superb in the F-15E, a design feature not available to personnel flying TAC's other main strike interdictor, the thundering F-111. This aircraft is carrying the maximum possible load of CBUs cleared for the F-15E, the four AIM-9Ls paired on each shoulder pylon allowing the pilot to indulge in ACM should the opportunity arise

Opposite above From this angle the Strike Eagle looks positively overburdened with ordnance and external tanks, especially when it's compared to the small and physically clean T-38 keeping station alongside

Opposite below Bathed in the warm afternoon sunlight which makes Florida the flying haven that it is, the Test Wing pair commence a gentle climbing turn over the powdery beaches below











Previous pages The unique nature of Test Wing flying is graphically illustrated by this two-ship formation cruising at altitude over the Gulf. Proving flights undertaken by the Wing usually involve two aircraft; the one under test, and a chase plane accompanying it to ensure everything goes according to plan. The workhorse of the 3246th is the Northrop T-38A Talon, the Wing having five 'pocket rockets' on strength. Capable of cruising at speeds in excess of Mach 1, the T-38 can stay with most types that pass through Eglin under test

Left The crews of both aircraft keep in radio contact throughout the duration of the flight, the educated eyes in the Test Wing Talon adding a further dimension to the data collection for the Strike Eagle programme. Although flying the venerable USAF fast jet trainer on today's mission, the Talon crew could be seated in the F-15E tomorrow testing another possible weapons fit



Above While testing goes on at Eglin and Edwards, brand new Strike Eagles are steadily leaving the St Louis production line and heading to either Luke AFB, Arizona, or Seymour-Johnson AFB in North Carolina. At Luke they are operated in the training role by the 405th Tactical Training Wing (TTW), a unit which also flies Alpha, Beta, and Delta model F-15s, as well as F-16 Fighting Falcons. On the other side of the country, the 4th TFW has been steadily trading in their weary F-4Es for factory-fresh Strike Eagles. Eventually the Wing will be equipped with 72 F-15Es split between three squadrons. The USAF was originally looking at procuring 392 Strike Eagles, but the budget cuts in 1988/89 reduced this number appreciably to 200 airframes only, thus halving TAC's future low-level interdiction capability in the process. To offset these drastic cuts, Strategic Air Command FB-111s are currently being remanufactured as F-111Gs and reassigned to TAC squadrons. The abundance of hardpoints fitted to the F-15E is clearly evident in this photo. The long thin torpedo shaped pod fitted beneath the port intake is the targeting portion of the twin podded Low-Altitude Navigation and Infra-red for Night (LANIRN) system, a vital piece of kit which allows the crew of the Strike Eagle to deliver its ordnance with pin-point accuracy during the hours of darkness, or in minimal visibility weather conditions. Within the targeting pod is a laser designator, missile boresight correlator and a high-resolution FLIR, this vital device possessing a range of about 16 km (10 miles)

The grey ghost

Just as the venerable F-4 Phantom II performs many of the testing tasks in the baking California sun at Edwards, a large fleet of 'bent winged birds from St Louis' also ply the moist Florida skies above Eglin. Unlike their west coast brethren, the Florida F-4s have retained the sinister grey finish which more befits their stature as combat veterans. Departing on a column of raw power provided by its rasping twin General Electric J79s, this F-4E wears the 'OT' code letters of the 4485th Test Squadron. As with all Test Squadron machines, this F-4 is maintained in showroom condition.









Left Canopies cranked back, this immaculate F-4 is undergoing a periodic inspection on the squadron ramp. The 'groundies' have unlatched the panels which cover the various fuel lines that run along the spine of the F-4. The hinged panel immediately behind the cockpit protects the twin fuel access nozzles of the number two internal tank. The distinctive winged sword emblem of the Tactical Air Warfare Center is clearly visible within the freshly sprayed crest on the Phantom II's fuselage

Above Also having its fuel tanks checked is F-4E 670389, a veteran machine which was part of the second batch of Echo model Phantom IIs built for the Air Force. The 4485th has seven F-4Es on strength, with this particular 'St Louis Slugger' being the oldest of them all



Above and right With the heat rising from the pale Eglin ramp, the crew of this F-4 add to the ambient temperature of the immediate locale with the jet efflux from their twin J79s set on idle while the preflights are completed. Everything operating as it should, the crew got the thumbs-up from the crew chief to send them on their way. One of the youngest F-4Es at Eglin, this particular machine was part of a group of 48 built for the USAF in 1973, two other airframes from the same batch also gracing the 4485th ramp. As with all later model F-4Es, this aircraft has the extended fairing beneath the nose which houses the longer barreled, uprated version of the venerable M61A1 20 mm cannon







Left The complexity of the Martin Baker Mk H7 ejection seat, and the various plumbing associated with it, is clearly visible in this detailed shot of a 4485th crew preflighting their F-4 before departure. Both crewmembers are wearing the relatively new HCU-55/P style bonedomes. The newer helmets allow aircrew to pull more Gs for far longer periods without excessive fatigue setting in

Below Rolling down towards the main runway, the crew of F-4E 72140 try and keep cool by keeping their canopies cranked open. The gloved hand of the weapons systems officer (WSO) is just visible resting on the cockpit divider bulkhead, his eyes, no doubt, firmly fixed upon the KC-135A just floating in over the threshold on a recovery approach to Eglin. From this angle the now somewhat dated shape of the F-4 appears to squat onto the tarmac





The granddaddy of all Phantom IIs at Eglin is this immaculate example from the 3246th TW. Still regularly flown on various weapons testing sorties, 84929 was in fact the very first production model F-4D ever built by McDonnell Douglas, this historic machine taking to the air at St Louis as McAir ship 1219 on 8 December 1965. Eventually 824 F-4Ds would follow '929 down the St Louis production line. Trailing its braking chute after recovering from another test hop, the aircraft heads towards the 3246th ramp, its seasoned crew having already cranked open the cockpits. The dark pod fitted to the starboard wing pylon is an LAU-5003A/A launcher, this innocuous looking device being able to rapidly fire up to 19 unguided 2.75 in rockets. The Test Wing maintain this historical machine in a condition befitting its importance in the F-4 Phantom II lineage







Above Although not as historically important as '92B, this RF-4C of the 4485th TS nevertheless performs sterling work as a developmental platform for new reconnaissance devices under test for the USAF. Looking slightly weathered, 90362 is one of four RF-4s flown by the squadron. The camera installation just forward of the air-conditioning inlet can house either lateral or side-looking oblique KS-87 cameras. Framed by a pair of protruding radar warning antennas, the KS-87 camera mounted in the 'chisel' nose section of the RF-4 is used specifically in low altitude reconnaissance work

Right The 3246th operates a total of seven Phantom IIs; five F-4Ds and two F-4Es. Canopies glinting brightly in the sun, this Delta model is having its avionics primed before the crew arrive to take it skyward. The white fairing around the windscreen indicates that this aircraft has recently been a guest of the Test Wing's maintenance shop, perhaps as a result of a bird strike during a sortie. The prominent fairing beneath the radome houses antenna associated with the APR-25/26 radar homing and warning system (RHAWS). Although an 'oldy' by today's standards, the F-4D was responsible for more MiG kills during the Vietnam War than any other aircraft type, a total of 48 Soviet built fighters falling victim to its missile and gun fire









Left Perhaps best described as the 'Sidewinder' of air-to-ground missiles, the Hughes ACM-65 Maverick is the most prolific guided round in the USAF arsenal, stocks of the Delta model alone amounting to 53,864 units. Developed in the 1960s, the basic ACM-65A is TV guided, a small camera in the nose of the missile tracking onto the target through input controls by the pilot. Once launched, the missile homes in on the target automatically. Various models of the Maverick have since appeared using laser tracking, infrared seeker heads and improved Scene Magnification optics. Warheads fitted to the basic ACM-65 have also differed, the US Navy, for example, using a heavy penetrator device to tackle the armour of warships. This particular round is an inert ACM-65A which has been slightly modified with more efficient optics and is undergoing guidance tests over the Eglin range. The missile's mount, the youngest F-4E on strength with the 4485th TS, is equipped with a Target Identification System Electro-Optical (TISEO) device, the spherical fairing housing a telescopic camera which is slaved to a TV receiver in the rear cockpit of the aircraft. Developed by Northrop, and fitted to most late production F-4Es, the TISEO gives the aircraft Maverick missile capability

Above The earth shakes as an unarmed F-4E leaves Eglin accompanied by the thundering roar of the twin J79s buried in the aircraft's fuselage





Still camouflaged in the old South-east Asian scheme, F-4E 72168 fires a live AGM-88 Maverick round high above the Eglin weapons testing range. Much of the development work carried out on the Hughes missile has taken place at Eglin, the 4489th TS and the 3246th TW expending hundreds of rounds testing various warheads and guidance systems. The missile has a range of approximately 40 kilometres and can travel at speeds approaching Mach 1.2 (USAF photo)



The 'Aardvark'

Left Illustrating the 'heavier' side of the 3246th TW fleet, this F-111E is one of four currently on strength with the Armament Division. The 'Aardvarks' are heavily involved in various programmes concerning both armament development and increased ECM capabilities, the aircraft spending many hours over the threat simulators and electronic warfare evaluative systems which populate the Tactical Air Warfare Centre (TAWC) ranges at Eglin. This particular machine has its large nose panels agape, allowing the bespectacled maintenance man easy access to the flight control computers and digital avionics systems buried within the slender forward contours of the F-111

Below Not the cleanest of workplaces, a diminutive 'groundie' gets down to business within the port exhaust nozzle. As with most modern combat aircraft, the F-111's nozzles are fully variable and move according to the power settings chosen by the crew. Because of the extreme heat generated by the twin Pratt & Whitney TF30s, the steel nozzle plates tend to warp and separate after continual use, so considerable care is taken to examine the 'twin cans' at regular intervals





As with any aircraft that operates over the extensive 'live' ranges at Eglin, a TACTS receiver pod must be fitted to the F-111 for it to fully benefit from all the electronic gadgetry on offer. Manufactured by the Cubic Corporation, the TACTS or ACMI pod transmits aerial data pertaining to the aircraft's speed, geographical position, height and overall flight parameters directly to computers housed in the TAWC building where ground controllers can then initiate further threats to the F-111, depending on the aircraft's position at the time. The small hinged flap on the front of the stores pylon covers the various circuitry which assimilates the ACMI pod with the F-111's avionics systems







Talon tester



The safest supersonic aircraft in the USAF inventory, the diminutive T-38 Talon has spent many hours in the blue skies over Eglin escorting various types on test flights. In service for over 25 years, the Talon's simplicity, voiceless flying characteristics and generous power output have made the aeroplane a favourite with all that have flown it. Both the USAF and US Navy fly the T-38 extensively on testing duties, NASA also having a large fleet of 34 aircraft used for shuttle crew proficiency training and as general fast communications 'jacks'. Whereas the majority of the 1000 strong Talon fleet wear the Air Training Command (ATC) badge, the five T-38s at Eglin, and the 18 machines at Edwards, have the distinctive blue and white Air Force Systems Command (AFSC) emblem on their fins.





Above With the warmth of the summer sun kissing their face masks, the crew of the Talon gently climb away from the photo-ship. The smooth blending of the fuselage in between the intakes is shown to advantage in this view, as is the small span and total area of the thin wings

Right Throughout its long service career the Talon has always worn the standard overall gloss white training colours, a scheme which serves equally well when it comes to test flying. However, as a rule the AFSC fleet of T-38s are maintained in even better condition than their immaculate ATC brothers. The bright red 'bullseyes' on the spine of the aircraft indicate the positions of the fuel filler caps on the starboard side of the aircraft. The small decal just forward of the red circles is the badge of the 3246th TW







VIPs

Left Smiling, no doubt, because they are on the ground and out of the murky weather above, a mixed group of Army and Air Force 'brass' pick up their belongings and are ushered towards more mundane transport. Wearing a two star board on the bumper, the Chrysler in the foreground is soon to be graced with the presence of a Tactical Air Command general, seen at the extreme right carrying his luggage towards the said vehicle. The smart looking Learjet C-21A belongs to the 1402nd Military Airlift Squadron assigned to MAC at Andrews AFB in Maryland. 'Joe Cool', with the ear defenders around his leg, will move in and service the aircraft after the VIPs have departed. As is becoming more and more prevalent in the force of the 1990s, Mr 'Cool' is a civilian, contracted by the USAF to perform these tasks



Below A red carpet for all seasons, this piece of suitably decorated tarmac at Eglin leaves the newly arrived visitor in no doubt as to the identity of their hosts at the Florida base



The USAF currently has 80 C-21As in service, all the aircraft being hired from Gates in an eight-year agreement costing \$175.4 million. Signed in September 1983, the contract saw the Learjet replace the veteran North American CT-39A Sabreliner in MAC service. Along with the Beechcraft C-12F Super King Air, the C-21 forms the Operational Support Aircraft fleet of the USAF, serving mainly in the USA, but also in the Pacific and Europe. All new-build airframes, the C-21A is based on the hugely successful Learjet Model 35A, the Air Force using the aircraft in the cargo delivery, personnel movement, proficiency training and medical evacuation roles.





Eglin marvels

Although not as common on the 4489th TS ramp as the venerable Phantom II, five F-16s wear "OT" tailcodes nevertheless. Captured seconds after rotation on a full-afterburner take-off, this F-16C is one of three Charlie models on strength with the Test Squadron. Diverted from a batch of F-16Cs delivered to the 363rd TFW at Shaw AFB in South Carolina in 1985, 83154 is carrying a single inert AIM-9 round on the starboard wingtip rail. The remaining two Fighting Falcons on the 4489th books are mid-production Alpha models









Left One of the more unique facilities regularly used at Eglin is the climatic control building where temperatures ranging from -60°F to $+145^{\circ}\text{F}$ can be generated. Taking on the appearance of a Rockwell 'igloo', this frozen B-1B has chilled out at -60°F . These tests ensure that the aircraft's systems will function in virtually any weather. Don't be alarmed by the ghostly legs in the foreground and near the nosegear of the B-1B; they belong to technicians who were captured on film during the prolonged shutter release of the camera! (USAF photo)

Above By far the largest user of the F-16 family is the 3246th Test Wing, no less than ten Fighting Falcons wearing the distinctive AFSC badge and Armament Division codes on their fins. Wearing a pitot-tube festooned with ultra-sensitive measuring devices attached to its nose, and small video cameras just forward of the tailplanes, this F-16A is photographed at height during one of the many Fighting Falcon/HARM missile compatibility sorties carried out over the electronic ranges at Eglin. An advanced anti-radar round built by Texas Instruments, the AGM-88A is now in frontline use with most F-16 squadrons in the USAF after trials carried out by the 3246th found the missile perfectly suitable for the General Dynamics fighter. Two practice Sidewinder missiles are also mounted on the outer pylons of this Fighting Falcon to test whether the rocket propulsion from the activated HARM affects the AAM round when the missile leaves the aircraft. Six F-16As are assigned to the Wing along with a solitary Beta model 'twin-tail' and a trio of Charlie model airframes (USAF photo)



Above Seen departing Eglin on yet another test flight, the famous Space Shuttle/NASA 747 combo was a common sight in the Florida skies during the early years of this multi-billion dollar programme. Most of the flight-testing of the combo was carried out at the base by NASA crews, and Eglin remains an alternate emergency landing site for the Shuttle (*USAF photo*)

Right It helps to be proficient on most frontline USAF types if you are assigned as either air or groundcrew with the 4485th or the 3246th. An indication of the diverse range of aircraft operated by these units is shown in this panoramic view of the Eglin ramp taken from the base control tower. All test pilots, bar the rotary-qualified UH-1N drivers, are at least dual-qualified on current frontline types, many crews holding type ratings for all the aircraft flown by the squadron









Left and above Eglin tower is perhaps best described as a functional structure which offers its inhabitants an unobstructed view of the miles of tarmac that constitute the runways and parking ramps of the base. Unlike the futuristic building which performs a similar function at Edwards, the Eglin tower is similar in appearance to most other standard Air Force control structures



Above Keeping the many aircraft at Eglin serviced and ready to fly is a complex job performed with military precision by the crews of the various units. A constantly updated checkboard is kept in the Maintenance Control Building where the current status of aircraft on the ramp is easily visible to refuelling and rearming controllers

Right A variety of frontline types sit amongst the clutter of ramp auxiliary equipment. The civilian Learjet at the end of the line is a 'Smart Crow' ECM training machine operated by Flight International as an aid to both pilots and ground intercept controllers alike. Surrounded by the mandatory orange 'security' cones, the visiting E-3B Sentry parked in the background belongs to the 963rd Airborne Warning & Control Squadron, based at Tinker AFB, Oklahoma. The mighty Sentry regularly deploys to Eglin to help F-15 crews from the 33rd TFW sharpen up their intercept capabilities







Opposite above Not the prettiest looking member of the 324th Fleet, the A-10 Thunderbolt II is nevertheless an important platform for weapons testing at Eglin. Two 'Warthogs' are on strength with the Test Wing, as well as another three with the 4485th Test Squadron. This aircraft has its retractable boarding ladder extended and the panel which covers the electrical system relay switches loosened ready for inspection

Opposite below The USAF utilizes a mass of purpose-built equipment to aid in the handling and mounting of stores on aircraft. This powerful little device, a conversion from the MJ-1 munitions loader, allows the groundcrew to affix this ECM jammer pod onto an awaiting F-15 both quickly and efficiently

Above Most major Air Force bases in the USA have a museum or collection of historic aircraft. Eglin's display is on a far larger scale than most, the standard of the aircraft on display, and the diversity of the types housed within the museum complex being quite breathtaking. The vast array of ordnance scattered amongst the aircraft in this view indicates the importance of the armament testing role carried out at the base



Not all the historical aircraft are undercover though, this pair of century-series fighters combatting the harsh Florida weather together. The F-101B Voodoo in the foreground wears the correct Air Defense Command grey that adorned these aircraft whilst in service, but the scheme on the faded F-100C Super Sabre in the background appears to be something of a "what paint have we got in the store?" job!

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